What is claimed is:

1.   A method of auditing an optical communications network to determine operational states of network elements, comprising:

        (i)   retrieving operational data from a plurality of network elements;

5   (ii)   evaluating the operational data to determine an operational parameter for a given network element;

        (iii)   determining if the operational parameter is invalid and flagging the invalid operational parameter;

        (iv)   repeating steps (ii) and (iii) for remaining operational parameters specified for

10   the given network element;

        (v)   repeating steps (ii) to (iv) for each of the plurality of network elements; and

        (vi)   generating a findings report for the plurality of network elements, the findings report listing any of the plurality of network elements determined to have at least one invalid operational parameter, displaying details of the at least one invalid operational parameter, and

15   providing a finding status for the at least one invalid operational parameter.

2.   The method according to claim 1, wherein retrieving the data includes polling the plurality of network elements via a serial connection.

20   3.   The method according to claim 1, wherein retrieving the data includes reading static data capture files.

4.   The method according to claim 1, wherein evaluating the operational data includes processing a network interface command line for the given network element.

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5.   The method according to claim 4, wherein determining if the operational parameter is invalid includes determining that the operational parameter is outside predetermined valid operating ranges.

30   6.   A method of auditing a synchronous optical network to identify malfunctioning network elements, comprising:

a) entering a directory location for network element data files;

b) retrieving a network element data file for a given network element from the directory location;

c) verifying that the network element data file is valid;

d) opening the network element data file and reading a network interface command line;

e) verifying that the network interface command line is valid;

f) processing the network interface command line to determine if operational parameters for the given network element are outside valid predetermined operating ranges;

g) creating a network element findings file for findings of operational parameters that are outside said valid predetermined operating ranges;

h) repeating steps a) to g) for all network element data files in said network to create a findings file for each network element; and

(i) creating a summary findings file and writing said network element findings files to the summary findings file to provide a report listing any of the plurality of network elements determined to have findings, displaying details of the findings, and providing a finding status for each finding.

7. A computer program product for auditing an optical communications network to determine operational states of network elements, comprising:

a computer-useable medium;

a data capture module stored on the computer-useable medium for retrieving operational data from a plurality of network elements via a serial connection, and for storing the operational data in data capture files;

an evaluation module communicatively coupled to the data capture module for evaluating the operational data to determine operational parameters for the plurality of network elements, for determining if the determined operational parameters are invalid, and for flagging the invalid operational parameters; and

a reporting module communicatively coupled to the evaluation module for generating a findings report for the plurality of network elements, the findings report listing any of the plurality of network elements determined to have at least one invalid operational parameter,

displaying details of the at least one invalid operational parameter, and providing a finding status for the at least one invalid operational parameter.

8. The computer program product according to claim 7, wherein the data capture module includes means for polling the plurality of network elements by modem connection.

9. The computer program product according to claim 7, wherein the data capture module includes means for reading static data capture files.

10. The computer program product according to claim 7, wherein the evaluation module includes means for processing network interface command lines for each of the plurality of network elements.

11. The computer program product according to claim 7, wherein the evaluation module includes means for comparing the operational parameters to predetermined valid operating ranges.

12. A computer program product residing on a computer-useable medium for auditing a synchronous optical network to identify malfunctioning network elements, comprising:

means for entering a directory location for network element data files;

means for retrieving a network element data file for a given network element from the directory location;

means for verifying that the network element data file is valid;

means for opening the network element data file and reading a network interface command line;

means for verifying that the network interface command line is valid;

means for processing the network interface command line to determine if operational parameters for the given network element are outside valid predetermined operating ranges;

means for creating a network element findings file for findings of operational parameters that are outside said valid predetermined operating ranges;

means for creating a summary findings file and writing network element findings files for each of the plurality of network elements to said summary findings file to provide a report listing any of the plurality of network elements determined to have findings, displaying details of the findings, and providing a finding status for each finding.

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13. An auditor for auditing an optical communications network to determine operational states of network elements, comprising:

a serial connection for communicating with a plurality of network elements in an optical communications network;

10 a data capture module for retrieving operational data from the plurality of network elements via the modem, and for storing the operational data in data capture files;

an evaluation module for evaluating the operational data to determine operational parameters for the plurality of network elements, for determining if the determined operational parameters are invalid, and for flagging the invalid operational parameters; and

15 a reporting module for generating a findings report for the plurality of network elements, the findings report listing any of the plurality of network elements determined to have at least one invalid operational parameter, displaying details of the at least one invalid operational parameter, and providing a finding status for the at least one invalid operational parameter.

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14. The auditor according to claim 13, wherein the data capture module includes polling means for polling the plurality of network elements.

15. The auditor according to claim 13, wherein the evaluation module includes means for
25 processing network interface command lines for each of the plurality of network elements.

16. The auditor according to claim 13, wherein evaluation module includes means for comparing the operational parameters to predetermined valid operating ranges.

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